

**Notice of Allowability**

Application No.

10/728,912

Examiner

Elizabeth Keaney

Applicant(s)

KIM, YONG-KUN

Art Unit

2882

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to application filed 8 December 2003.
2. ☒ The allowed claim(s) is/are 1-36.
3. ☒ The drawings filed on 08 December 2003 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

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|--|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date <u>11/18/04</u> | 7. <input type="checkbox"/> Examiner's Amendment/Comment                               |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material                               | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance   |
|  | 9. <input type="checkbox"/> Other _____.   |

**DETAILED ACTION**

***Priority***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

***Allowable Subject Matter***

Claims 1-36 are allowed over the prior art of record.

The following is an examiner's statement of reasons for allowance:

Re claims 1-6: The best prior art of record teaches a color cathode ray tube comprising many of the features of claim 1, including a shadow mask having a curvature formula defined as the polynomial of the instant claim. However, the prior art fails to teach or fairly suggest a color cathode ray tube including a shadow mask wherein the curvature coefficient of the shadow mask in the range of about 70,000-200,000, as claimed in claim 1. Claims 2-6 are allowable by virtue of their dependency.

Re claims 7-36: The best prior art of record teaches a color cathode ray tube comprising many of the features of claims 7,14,18,22,28 and 35, including a shadow mask having a curvature radius. However, the prior art fails to teach or fairly suggest a color cathode ray tube including a shadow mask having a curvature radius gradually decreasing towards a peripheral portion of the shadow mask from a center portion thereof, and wherein a curvature radius at a position corresponding to 80% of an effective distance along a horizontal axis from the center portion is decreased by more

than 35%, a curvature radius at a position corresponding to 80% of an effective distance along a vertical axis from the center portion is decreased by more than 50% and a curvature radius at a position corresponding to 80% of an effective distance along a diagonal axis from the center portion is decreased by more than 25% with reference to the curvature radius of the center portion of the shadow mask, as claimed in claims 7,14,18,22,28 and 35. Claims 8-13,15-17,19-21,29-34 and 36 are allowable by virtue of their dependency.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- US Patent Publication Application 2002/0195920 discloses a curvature coefficient of 733,134, a curvature radius at a position corresponding to 80% of an effective distance along the horizontal, vertical and diagonal axes less than 35%,50% and 25% respectively.
- US Patent Publication Application 2001/0018309 and US Patents 6,448,706, 6,593,685, 5,155,410, 6,628,060, 6,674,225 and 6,879,094 disclose the current state of the art.

Art Unit: 2882

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth Keaney whose telephone number is (571)272-2489. The examiner can normally be reached on Monday, Tuesday, Thursday, Friday 7:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on (571)272-2490. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
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DAVID V. BRUCE  
PRIMARY EXAMINER